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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,181

07/26/2006

Astrid Mauler-Machnik

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EXAMINER

BROOKS, KRISTIE LATRICE

ART UNIT

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1616

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,181	Applicant(s) MAULER-MACHNIK ET AL.	
	Examiner KRISTIE L. BROOKS	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

1. Claims 9-15 are pending.
 2. Receipt and consideration of Applicants remarks filed June 11, 2008 is acknowledged.
 3. Rejections not reiterated from the previous Office Action are hereby withdrawn.
- The following rejections are either reiterated or newly applied. They constitute the complete set of rejections presently being applied to the instant application.

New Ground(s) of Rejection Necessitated by Applicant's Amendment

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jautelat et al (5,789,430) in view of Latteur et al. (Effects of 20 fungicides on the infertility of conidia of the aphid entomopathogenic fungus *Erynia neoaphidis*, *BioControl*, 47:435-444, 2002).

Applicant claims an active compound combination comprising a compound of formula (i) (spiroxamine), formula (II) (prothioconazole), and formula (III) (tebuconazole).

Determination of the scope and content of the prior art
(MPEP 2141.01)

Jautelat et al. teach triazolyl derivatives of formula (I), such as prothioconazole, and their use as microbiocides in plant protection (see the abstract). The triazolyl derivatives have a powerful microbiocidal action that can be employed to control undesirable microorganisms, preferably fungi (see column 29 lines 57-60 and column 31 lines 5-11). A triazolyl derivative can be formulated with another fungicidally active compound to widen the spectrum of action or prevent the buildup of resistance, thus resulting in a synergistic effect (see column 32 lines 26-31). An example of a fungicide that can be used in the formulation is tebuconazole (see column 33 line 21). The active compounds are generally present in an amount between 0.1 and 95% by weight or 0.001 to 50g per kilogram of seed (see column 32 lines 21-23 and column 34

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lines 43-45). The active compounds can be formulated with extenders, surfactants, etc. and formulated into solutions, emulsifiable concentrates, suspensions, powders, foams, etc (see column 31 lines 35-41 and column 34 lines 27-37). The compositions can be applied to parts of plants, seeds, vegetable propagation stock, industrial material (see column 30 lines 4-55).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Jautelat et al. do not teach the fungicide, spiroxamine. This deficiency is cured by the teachings of Latteur et al.

Latteur et al. teach the effect of fungicides such as spiroxamine and tebuconazole on the infectivity of conidia of the entomopathogenic fungus, *Erynia neoaphidis* (see the abstract). The fungicides were diluted with water and applied to broad bean leaves infected with the fungus (see *Chemicals* on page 437). The dose tested (a.i./ha) was 750g for spiroxamine and 250g for tebuconazole (see Table 1 on page 439). Spiroxamine and tebuconazole totally inhibited the infectivity of the fungi (see the abstract).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to make a composition comprising spiroxamine, tebuconazole, and prothioconazole because Jautelat et al. teach the combination of prothioconazole and tebuconazole widens the spectrum of activity against fungi. Although Jautelat et al. do not teach spiroxamine, Latteur et al. suggests that spiroxamine can completely inhibit the infectivity of fungi.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to make a composition comprising spiroxamine, tebuconazole, and prothioconazole, to further widen the spectrum of activity against the fungi and to prevent the buildup of resistance. Furthermore, it would have been obvious to one of ordinary skill in the art to combine compounds that are taught by the prior art to be useful for the same purpose (*In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)).

Although Baron et al. and Jautelat et al. do not teach the ratio of spiroxamine and prothioconazole, it would have been obvious to one of ordinary skill because Jautelat discloses 0.1 to 95% by weight of a triazole derivative that may be used to widen the spectrum of activity against fungi when used with other fungicides. Baron et al. also discloses using 0.1 to 95% by weight of active compounds in fungicidal formulations. Thus, it would have been obvious to utilize the ratios cited in the instant claims because the amount of actives cited in both prior art references are similar and encompass a very broad amount of actives that can be used in the formulations. Therefore, when utilizing the amounts of actives cited in both Baron et al. and Jautelat et al. the ratio does encompass the range cited in the instant claims.

Therefore, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the claimed invention.

Response to Arguments

Applicant's arguments with respect to claims 9-15 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's Amendment.

6. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jautelat et al (5,789,430) in view of Latteur et al. (Effects of 20 fungicides on the infertility of conidia of the aphid entomopathogenic fungus *Erynia neoaphidis*, *BioControl*, 47:435-444, 2002) further in view of Eicken et al. (US 6,503,932) and Valcke et al. (US 5,397,795).

Applicant claims an active compound combination comprising a compound of formula (i) (spiroxamine), formula (II) (prothioconazole), and formula (III) (tebuconazole).

Determination of the scope and content of the prior art (MPEP 2141.01)

Jautelat et al. teach triazolyl derivatives of formula (I), such as prothioconazole, and their use as microbiocides in plant protection (see the abstract).

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The triazolyl derivatives have a powerful microbiocidal action that can be employed to control undesirable microorganisms, preferably fungi (see column 29 lines 57-60 and column 31 lines 5-11). A triazolyl derivative can be formulated with another fungicidally active compound to widen the spectrum of action or prevent the buildup of resistance, thus resulting in a synergistic effect (see column 32 lines 26-31). An example of a fungicide that can be used in the formulation is tebuconazole (see column 33 line 21). The active compounds are generally present in an amount between 0.1 and 95% by weight or 0.001 to 50g per kilogram of seed (see column 32 lines 21-23 and column 34 lines 43-45). The active compounds can be formulated with extenders, surfactants, etc. and formulated into solutions, emulsifiable concentrates, suspensions, powders, foams, etc (see column 31 lines 35-41 and column 34 lines 27-37). The compositions can be applied to parts of plants, seeds, vegetable propagation stock, industrial material (see column 30 lines 4-55).

Latteur et al. teach the effect of fungicides such as spiroxamine and tebuconazole on the infectivity of conidia of the entomopathogenic fungus, *Erynia neoaphidis* (see the abstract). The fungicides were diluted with water and applied to broad bean leaves infected with the fungus (see *Chemicals* on page 437). The dose tested (a.i./ha) was 750g for spiroxamine and 250g for tebuconazole (see Table 1 on page 439). Spiroxamine and tebuconazole totally inhibited the infectivity of the fungi (see the abstract).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

Jautelat et al. and Latteur et al do not teach the instantly claimed ratio of the active compounds of formula (I) (spiroxamine) to active compound of formula (II)(prothioconazole) is from 1:01 to 1:10 and to the active compound of formula (III) (tebuconazole) is from 1:0.05 to 1:10. This deficiency is cured by the teachings of Eicken et al. and Valcke et al.

Eicken et al. teach fungicidal mixtures comprising a compound of formula (I) and a compound of formula (II) (spiroxamine) (see the abstract and column 1 lines 48-50). The formulations generally comprise 0.1 to 95% by weight of compound II (spiroxamine) (see column 4 lines 27-30).

Valcke et al. teach antifungal compositions comprising tebuconazole (see the abstract). The active ingredients (i.e. tebuconazole) are preferably present in an amount ranging from 0.01 to 95% by weight (see column 4 lines 65-68).

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

One of ordinary skill in the art would have been motivated to use the instantly claimed ratios because prothioconazole, tebuconazole, and spiroxamine are all highly effective fungicides that are already known in the art to be present in the amount of 0.1

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to 95% by weight in fungicidal formulations as suggested by Jautelat et al., Eicken et al. and Valcke et al.

Although Jautelat et al. and Latteur et al. do not teach the instant ratios of the active compounds of formula (I) (spiroxamine) to active compound of formula (II)(prothioconazole) is from 1:01 to 1:10 and to the active compound of formula (III) (tebuconazole) is from 1:0.05 to 1:10, it would have been obvious to one of ordinary skill in the art to utilize the ratios cited in the instant claims because the amount of actives cited in the prior art references are similar and encompass a very broad amount that can be used in fungicidal formulations. Therefore, when utilizing the amounts of actives cited in Jautelat et al., Eicken et al. and Valcke et al., the ratio does encompass the range cited in the instant claims. Furthermore, it is merely routine optimization to determine the appropriate amount of each active to each the most optimal formulation.

Therefore, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the claimed invention.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIE L. BROOKS whose telephone number is (571)272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Mina Haghighatian/
Primary Examiner, Art Unit 1616